Index to Volume 9, 1988

Authors

Alciatore, D. 292
Aldoss, T. 316
Anders, J. B. 266
Anderson, R. 208
Andersson, H. I. I. 241, 343
Antonopoulos, K. A. 410
Bejan, A. 251, 396
Ben-Dor, G. 174
Boles, M. A. 147
Bullen, P. R. 431
Bushnell, D. M. 266
Cai, R.-Q. 302
Calvert, J. R. 2, 69
Campo, A. 308
Chaddock, J. B. 396
Chan, W. K. 74
Cheeseman, D. J. 431
Chen, C.-K. 296
Chen, S. J. 118
Chew, J. W. 37
Chung, M. K. 62
Cieśliński, J. 405
Cleaver, J. W. 296
Dekam, E. I. 2
Derbyshire, P. M. 254
Elperin, T. 14
Ferguson, C. R. 188
Fey, Y. C. 147
Figliola, R. 208
Fox, T. A. 53
Garg, V. K. 194, 233
Gilchrist, A. R. 286
Gomes, J. F. P. 339
Gorla, R. S. R. 49, 421, 427
Gregory-Smith, D. G. 286
Güçeri, S. I. 225
Hall, J. D. 396
Hill, R. S. 131
Hsieh, S.-S. 78
Hussain, L. A. 431
Hyun, J. M. 220, 278
Hyun, K. C. K. 220
Igra, O. 174
Issa, M. 316
Jankowsi, F. 421, 427
Jana, W. S. 202
Jones, J. 165
Kakatsios, X. K. 410
Kim, K. Y. 62
Kimura, S. 83
Kleinstreuer, C. 182, 328
Kouremenos, D. A. 410
Lam, C. Y. 321
Lazos, B. S. 266
Lee, J. W. 278
Lewis, R. I. 131
Lin, W.-Q. 389
Liu, G.-L. 302
Lloyd, J. R. 90
Lush, P. A. 8
Majidi, R. 366
Mansour, A. R. 316
Marto, P. J. 194
Motamed-Amini, A. 373
Neve, R. S. 156
Northrop, A. 19, 27
Orozco, J. 15
Owen, I. 254, 373
Owen, J. M. 19, 27, 98, 106, 113, 354
Pascal, H. 381
Peerhossaini, H. 12
Phadke, U. P. 98, 196, 113
Poulikakos, D. 165, 334
Pudlik, W. 405
Rajibi, A. A. 215
Rogers, R. H. 37
Sathe, S. B. 389
Schuler, C. 308
Scott, D. 208
Shaw, H.-J. 296
Shim, K. C. 131
So, R. M. C. 366
Spatz, T.L. 334
Spencer, E. A. 244
Swaiti, O. 316
Textor, D. 421, 427
Tong, A. Y. 118
Tong, T. W. 389
Toy, N. 53
Trela, M. 415
Velusamy, K. 233
Wahiduzzaman, S. 188
Wang, T.-Y. 182, 328
Wei, S.-S. 225
Wesfreid, J. E. 12
Wilkinson, J. 373
Wilkinson, S. P. 266
Winterton, R. H. S. 21
Womack, D. 202
Yang, H. Q. 90
Yang, K. T. 90

Titles

Aerodynamic aspects of the sealing of gas-turbine rotor-stator systems, parts 1–3, U. P. Phadke and J. M. Owen 9, 106, 113

Air-cooled gas-turbine discs; a review of recent research, J. M. Owen 354

Approximate formulas for low Prandtl number heat transfer in laminar wedge flows, H. I. Andersson 241

Blending geometry with numerical computation: charts for the enthapy, absolute entropy and flow exergy of 12 gases at low pressures, A. Bejan 251

Blockage of natural convection boundary layer flow in a multizone enclosure, D. Scott, R. Anderson and R. Figliola 208

Calculation of a strongly swirling turbulent round jet with recirculation by an algebraic stress model, K. Y. Kim and M. K. Chung 62

Calculation of laminar boundary layers under small harmonic progressive oscillations of the free stream, C. Y. Lam 321

Compressible and confined vortex flow, J. Wilkinson, A. Motamed-Amini and I. Owen 373

Compressible Coanda wall jet: predictions of jet structure and comparison with experiment, A. R. Gilcrist and D. G. Gregory-Smith 286

Correlation of the isentropic exponents of real gases, D. A. Kouremenos, K. A. Antonopoulos and X. K. Kakatsios 410

Detection of cavitation erosion in centrifugal pumps, W. K. Chan 74

Drag reduction in turbulent crude oil pipelines using a new chemical solvent, A. R. Mansour, O. Swaiti, T. Aldoss and M. Issa 316

Dynamics of cavities in a duct flow, P.A. Lush 8

EEC intercomparison campaign on industrial gas meters, E. A. Spencer 244

Effect of aspect ratio on heat loss from a swirling flow within a cylinder, S. Wahiduzzaman and C. R. Ferguson 188

Effects of inlet sharpness on the pipe contraction pressure loss coefficients, P. R. Bullen, D. J. Cheeseman and L. A. Hussan 431

Effects of thermal sources on natural convection in an enclosure, H. J. Shaw, C. K. Chen and J. W. Cleaver 296

Families of variational principles for inverse and h_A hybrid problems of an s_2 stream sheet in mixed flow turbomachines, R.-Q. Cai and G.-L. Li 302

Film condensation on a vertical sinusoidal fluted tube, V. K. Garg and P. J. Marto 194

Flow of foam through constrictions, J. R. Calvert 69

Fluctuating lift forces and pressure distributions due to vortex shedding in tube banks, K. C. Shim, R. S. Hill and R. I. Lewis 131

Fluid flow at the center of a cross composed of tubes, T. A. Fox and N. Toy 53

Forced convection heat transfer about a cylinder placed in porous media with longitudinal flows, S. Kimura 83

Head-on collision of normal rarefaction waves in dusty gases, G. Ben-Dor, O. Igra and T. Elperin 174

Heat transfer between rotating spheres and flowing power-law fluids with suction and injection, C. Kleinstreuer and T. Y. Wang 328

Heat transfer correlations for vaporizing liquid droplet arrays in a high temperature gas at intermediate Reynolds number, A. Y. Tong and S. J. Chen 118

Heat transfer from a cylindrical fin in combined free-forced flow, K. Velusamy and V. K. Garg 233

Heat transfer from turbulent water flow in a tube to a cooled isothermal wall, W. S. Jana, D. Womack and D. Alciatore 202

Heat transfer measurements in rotating-disc systems part 1: the free disk, A. Northrop and J. M. Owen 19

Heat transfer measurements in rotating-disc systems part 2: the rotating cavity with a radial outflow of cooling air, A. Northrop and J. M. Owen 27

Influence of operating parameters on heat transferred to immersed tubes in a fluidized coal combustor, J. F. P. Gomes 339

Inner structure of streamwide Görtler rolls, H. Peerhossaini and J. E. Wesfreid 12

Integral method for the calculation of turbulent forced convection in a rotating cavity with radial outflow, J. W. Chew and R. H. Rogers 37

Laminar free-covection from spherical segments, J. Cieśliński and W. Pudlik 405
Liquid-solid contact in steady-state transition pool boiling, A. A. Alem Rajabi and R. H. S. Winterton 215
Local skin friction and heat transfer in combined free-forced convection from cylinder or sphere to a power-law fluid, T.-Y. Wang and C. Kleinstreuer 182
Minimum wetting rate for a decelerating liquid film, M. Trela 41
Mixed convection from a rotating horizontal heated cylinder placed in a low--speed wind tunnel, J. Jones, D. Poulikakos and J. Orozco 165
Nakayama-Koyama approach to laminar forced convection heat transfer to power-law fluids, H. I. Andersson 343
Natural convection experiments in a horizontal porous layer saturated with cold water, T. L. Spatz and D. Poulikakos 334
Natural convection in enclosures containing an insulation with a permeable fluid-porous interface, S. B. Sathe, W.-Q. Lin and T. W. Tong 389
Numerical prediction of turbulent heat transfer in gas pipe flows subject to combined convection and radiation, C. Schuler and A. Campo 308
On the existence of self-similar solutions of the equations governing unsteady flow through a porous medium, H. Pascal 381
Parametric analysis of self-freezing in a initially wet porous medium, Y. C. Fey and M. A. Boles 17
Performance and modelling of liquid jet gas pumps, R. S. Neve 156
Periodic boundary layer near a axisymmetric stagnation point on a circular cylinder, R. S. R. Gorla, F. Jankowsi and D. Textor 421
Pressure losses in sudden transitions between square and rectangular ducts of the same cross-sectional area, E. I. Dekamand J. R. Calvet 2
Radiative effect on conjugate forced convection and conductive heat transfer in a circular pin, R. S. R. Gorla 49
Solidification in developing pipe flows, S. S. Wei and S. I. Güçeri 225
Swirl effects on variable-density jet mixing in confined flows, R. Majidi and R. M. C. So 366
Thermal characteristics of annual flow with asmmetrically roughened surfaces, S. S. Hsieh 78
Thermal response of a periodic boundary layer near an axisymmetric stagnation point on a circular cylinder, R. S. R. Gorla, F. Jankoswki and D. Textor 427
Three-dimensional bimodel buoyant flow transitions in tilted enclosures, H. Q. Yang, K. T. Yang and J. R. Lloyd 90
Transient heat transfer in a boiled potato: a study related to food process engineering, P. M. Derbyshire and I. Owen 254
Transient natural convection in a rectangular enclosure with one heated side wall, J. D. Hall, A. Bejan and J. B. Chaddock 396
Transient natural convection in a square cavity of a fluid with temperature dependent viscosity, J. M. Hyun and J. W. Lee 278
Turbulent drag reduction research at NASA Langley: progress and plans, S. P. Wilkinson, J. B. Anders, B. S. Lazos and D. M. Bushnell 266
Use of a vertical through-flow to stratify an initially isothermal contained fluid, J. M. Hyun and K. C. Hyun 220

Keywords

air flow 208
algebraic stress model 62
annular flow 78
aperture flow 208
approximations 241
asymmetrically roughened surfaces 78
axisymmetric stagnation point 421
bed of glass spheres 334
blading design 302
boundary layer flow 208, 321
boundary layers 241, 343
calibrations 244
cavitation 8, 74
centrifugal instabilities 12
centrifugal pump 74
chemical solvent 316
circular cylinder 83, 421
coal 339
Coanda effect 286
combined free-forced convection 182
combustion 339
combustor flows 366
compressible vortex 373
compressible wall jet 286
concave boundary layers 12
condensation 194
conduction 254
confined turbulent 366
confined vortex 373
conjugate heat transfer 49
constrictions 69
convection 202
convective heat transfer 427
cooking 254
critical heat flux 215
crude oil 316
CVM gas meter 244
cylinder 53
density extremum of water 334
developing flows 225
drag reduction 316
drop 118
duct flow 8
ducts 20
eddy viscosity 62
EEC intercomparison 244
ejectors 156
enclosure 389
enthalpy 251
entropy 251
erosion 74
exergy 251
experimental natural convection 334
extended surface heat transfer 49
film breakdown 415
filtration 147
fin heat transfer 233
finite element method in fluids 302
flow 69
flow measurement 354
fluid dynamics 354
fluid flow 53, 188
fluidized beds 339
fluted tube 194
foam 69
forced convection 83, 328, 343
free and forced flow 233
free-convection 405
free disc 19
gas turbines 354
Görtler vortex 12
heat 194
heat and mass transfer 147
heat exchanger 131
heat transfer 19, 27, 37, 53, 118, 188, 254, 343
heat transfer node 278
heat/mass transfer 328
heating/cooling 182
horizontal cylinder/sphere 182
hydrodynamic entrance length 415
hydrodynamic instabilities 12
ideal gases 251
inclined enclosures 90
incompressible pipe flow 431
induction pumps 156
industrial gas metering 244
inlet sharpness 431
insulation 389
integral method 37
isentropic change 410
isentropic exponents 410
isothermal tube wall 202
jet 62
jet pumps 16
laminar flow 415
Landau transformation 225
liquid-solid contact 215
LJGP 156
loss coefficient 431
method of characteristics 286
minimum wetting rate 415
natural convection 90, 208, 296, 389
non-Darcy gas flows 381
non-Newtonian fluid 182, 328, 343, 381
numerical computation 296
numerical experiments 396
numerical methods 321
numerical modeling 118
orthogonal polynomial curve fitting 244
periodic boundary layer 421, 427
permeable interface 389
pipe contractions 431
pipe flow 308
porous media 83, 147, 389
porous sphere 328
power fluidics, 373
power-law fluids 328
pressure loss 2
pumping cost 316
radiation 308
radiative heat transfer 49
real gases 410
recirculation 62
rotating cavity 27
rotating disc 19, 27, 37, 98, 113, 160, 357
rotor-stators 98, 106, 113
scale analysis 396
sealing 98, 106, 113
self-similar solutions 381
shock cells 286
skin friction/heat transfer group 182
solidification 225
spherical segments 40
stagnation flows 427
stratification control 220
sublimation 147
swirl 62, 188
swirling flows 366
theoretical model 8

thermal analysis 78
thermal convective process 220
thermal energy storage tank 220
thermodynamic charts 251
three-dimensional flow 90
through-flux 220
transient convection 278
transient natural convection 396
transition pool boiling 215
transitions 2
tube bank 131
tubes 53
turbine gas meter 244
turbomachine aerodynamics 302
turbulence 62
turbulent boundary layer 266
turbulent drag reduction 266
turbulent flow 202
turbulent forced convection 308
two-phase flow 174
underexpanded jet 286
unsteady 188
unsteady fluid dynamics 321
variable-viscosity fluid 278
variational methods in fluids 302
vegetable matter 254
vortex breakdown 373
vortex diodes 373
vortex street 131
vortex throttles 373
wall heat transfer 241

Book reviews

Aerothermodynamics of Low Pressure Steam Turbines and Condensers, by M. J. Moore and C. V. Sieveding 257
Chemical Engineering Guide to Heat Transfer, Volumes 1 *and* 2, ed. by K. J. McNaughton 258
Engineering Principles and Concepts for Active Solar Systems, by the Solar Energy Research Institute 435
Flow Induced Vibration of Circular Cylindrical Structures, by S.-S. Chen 347
Flow Visualization IV, ed. by C. Veret 348
Heat Transfer in Gas-Cooled Annual Channels, by J. Vilemas, B. Cesna, and V. Suvila 434
Heat Transfer in High Technology and Power Engineering, ed. by W.-J. Wang and Y. Mori 349
Heat Transfer of Finned Tube Bundles in Crossflow, by J. Stasiulevicius and A. Skrinska 347
Heat Transfer Science and Technology, by B. X. Wang 257
Innovation in Process Energy Utilization, ed. by A. Rogers 434
Instrumentation for Complex Fluid Flows, by N. P. Cheremisinoff 258
Mechanical Engineering Handbook, ed. by M. Kutz 257
Papers presented at the Second International Conference on Laser Anemometry Advances and Applications, Strathclyde, UK, September 1987 348
Standard Methods of Hydraulic Design for Power Boilers, by V. A. Lokshin, D. F. Peterson, and A. L. Schwarz 347
Thesaurus of Scientific, Technical and Engineering Terms, Science Information Resource Center, 434
Turbulence and Random Processes in Fluid Mechanics, by M. T. Landahl and E. Mollo-Christensen 435
Turbulent Shear Flows, ed. by F. Durst, B. E. Launder, J. L. Lumley, F. W. Schmidt, and J. H. Whielaw 348
Two Phase Cooling and Corrosion in Nuclear Power Plants, by M. A. Styrikovich, V. S. Polansky, and G. V. Tsiklauri 319